

BOOK REVIEW

AN ILLUSTRATED SYNOPTICAL FLORA OF BAJA CALIFORNIA¹

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From a lifetime of field work in Baja California, studies in herbaria and libraries in the relevant places of the United States and Europe, and continuous research on the plants themselves at his home base, Stanford University, Professor Emeritus Ira L. Wiggins has brought together a magnificent book covering the higher plants of the 1300 kilometer peninsula. No other person excels Dr. Wiggins in knowledge of the Sonoran Desert flora which covers most of Baja California. The present book is rooted in an earlier one, "Vegetation and Flora of the Sonoran Desert" by Forrest Shreve and Ira L. Wiggins, published in 1964. Wiggins did the "flora" part of that book.

The Baja California peninsula provides a marvelous range of plant habitats, from dry to moist islands off the adjacent Pacific Coast or in the Gulf of California, from dry to moist places in the lowland desert and from dry to moist sites in canyons and mountains. A series of rugged mountains run the length of the peninsula and reach an elevation of 3,090 meters at the highest peak, La Providencia. These are flanked by evergreen forests, mountain meadows, scattered lower ranges, chaparral, salt flats, vernal pools, and vast deserts. The rainfall varies tremendously in short distances. For example, coming mostly in the winter, the total average annual rainfall at San Felipe is about 6 centimeters, whereas at a station in the Sierra San Pedro Martir, less than 50 kilometers away, it varies from 75 to 90 centimeters. Similarly, but in summer, in the Cape Region, 5 centimeters at La Paz and 75 to 80 centimeters around the lagunas in the higher, northern parts of Sierra Victoria. With such a wide diversity of habitats, climate, and topography, coupled with the semi-isolation of the long peninsula and the isolation of its many islands, it is surprising that endemism in the flora is not higher than 23.2 per cent of the 2,958 species, subspecies, and varieties listed in the flora. For comparison, endemism for the same taxa in the flora of the

¹Wiggins, Ira J. *Flora of Baja California*. i-viii, 1-1025, 1980. Stanford University Press, Stanford, California. (Price: \$65.00.)

California Province to the north is 47.7 per cent. However, such a curious plant as the "Boojum Tree," *Idria columnaris*, gives a weird aspect to the flora of parts of the peninsula and an illusion that the plants in general must be distinctive.

In the opening chapter, Wiggins gives a full and well-balanced description of Baja California including an excellent map and many place names. The physiography, including a table giving information on the many islands, the stratigraphy, historical geology, minerals and mining, drainage systems, soils, and climate are given for the peninsula in a brief and succinct way. An extended account of the major plant communities drawn largely from the earlier publication of Shreve and Wiggins, a section on endemism, one on botanical exploration, some notes on methods used in arriving at the taxonomic treatment, and a summary view of the flora complete the introductory material.

The flora itself occupies slightly more than 900 pages of the book. The treatment is synoptical in character. That is, there are short descriptions of all major taxa including the genera but whatever descriptive material there is for each species is included in the key to the species under each genus. If a genus is monotypic then a key is not required. Authors for the recognized species are given but there are no citations of publications and no synonymy. This appears to be a compromise to reduce as far as possible the bulk of printed matter. Some of the space thus saved is taken up by notes from the author. Freedom from a rigid form has permitted him to provide his personal knowledge of the particular plant being treated. These notes are a significant part of the work and in them are items not available elsewhere.

The arrangement of the flora does not follow any particular system except in broad outline. As is customary, the ferns and fern allies are first, followed by the gymnosperms, then the angiosperms. The dicotyledons are broken down to the Apetalae, Gamopetalae, and Polypetalae, and are presented in that order. The families and genera under the families are given alphabetically. The monocotyledons make up the final section of the flora. This is followed by reference material which includes a glossary of botanical terms and an index of botanical names.

The illustrations are drawn from a number of sources but many were done specifically for Flora of Baja California by Wiggins himself. At least one species in each genus is illustrated, and in genera

with numerous species occurring on the peninsula usually several species have illustrations. The artist most frequently represented appears to be Jeanne Russell Janish, an excellent botanical illustrator.

The book was crafted for the Stanford University Press which by now has stamped a distinctive style upon its botanical publications. The paper and binding are of high quality and the format is unusually clear and readable. I did not search diligently for mistakes but none of a serious nature was detected. There are a few inconsistencies and it would be surprising in a work with so many minutia if some errors did not creep in. But it safe to say that the book is virtually mistake-free. This speaks very favorably for the author, his wife Dorothy who helped with the proof-reading, and the publisher.

The Flora of Baja California is a fitting monument to Professor Ira L. Wiggins, who has spent a lifetime devoted to botany in a high order of dedication that few ever achieve. I can attest to this first hand, for it was my privilege to work beside him in the Dudley Herbarium, then in the Natural History Museum on the Stanford campus, for a number of years, and to accompany him on a memorable six week field trip to the state of Sonora, Mexico, in 1941. His work habits, his insights into botanical and all manner of other matters are phenomenal. I salute him on the major accomplishment that brings this excellent book to the botanical public.